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From Spatial Separation to Functional Absence: Rethinking the Identification of Left-Behind Children in Industrializing Rural China

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Abstract

The Chinese category of the left-behind child was built on a spatial premise: parents leave, children stay. That premise is dissolving. In 2024, two-fifths of rural migrant workers were employed within their own township and more than three-quarters within their own province. Where such proximity coincides with work schedules that remove parents from children's need windows, children can live with their parents while remaining functionally unsupported; how often this occurs is an empirical question that current registration systems cannot answer. This article develops an analytical alternative. It argues that the spatial definition is an instrument calibrated to a receding labour regime, and that its failures are systematic rather than incidental; it specifies hidden left-behind childhood through three jointly sufficient criteria; it replaces the quantity-of-time account with a mechanism based on temporal fit, the overlap between parental availability and children's daily requirements; and it explains why registration-based systems cannot record a temporal condition.

Keywords

Hidden Left-Behind Children, Functional Absence, Temporal Fit, Social Legibility, China

1. Introduction

Few categories in Chinese social policy have travelled as far as that of the left-behind child. The State Council's 2016 opinion defined the group through parental out-migration, and the definition was written into village registers, school records, fiscal transfers and the mandates of local child protection offices. It has proved administratively workable in a way most social categories are not: it can

be counted, and because it can be counted, it can be served (Gu et al., 2011). Three decades of research built on it have documented consistent disadvantages in learning, emotional adjustment and social integration (Dai et al., 2022; Ding et al., 2019).

The definition, however, was calibrated to a labour regime that is changing faster than the definition itself: the officially registered population has fallen sharply since the mid-2010s even as local employment has grown (Duan et al., 2017; Luo, 2021). County-level industrial parks have drawn manufacturing into districts that previously exported labour. Of the 299.7 million rural migrant workers recorded in 2024, 121.0 million worked within their own township and a further 110.3 million elsewhere in their home province; only 68.4 million crossed a provincial boundary[1]. Two-fifths no longer leave the township, and three-quarters no longer leave the province. These figures describe where migrant workers are employed, not whether they are present at the hours children need them: employment within the county is compatible with co-residence but does not establish daily availability, and it establishes nothing about children's support needs. They are therefore context for the mechanism developed below, not evidence that functional absence has increased.

This would be good news if proximity delivered presence. It frequently does not. A parent who leaves at seven and returns at eight is resident, employed and, by every administrative criterion, present. That parent is also absent from the homework hour, from dinner and from bedtime, which are the moments in which the educational work of a family is done. On a night shift, the number of hours spent in the household rises while the overlap between parental wakefulness and the child's needs falls. The household is intact; the function is not.

Chinese scholarship has a name for this condition. The term yinxing liushou, usually rendered as hidden or invisible left-behind, has circulated in recent policy commentary and applied research, first for urban children whose parents were present but unable to provide sustained companionship (Song et al., 2020), and later through the adjacent notion of ban liushou, the semi-left-behind childhood of children whose parents migrate but return at short intervals (Pan & Feng, 2024). The term has been measured, but as a family phenomenon rather than as an identification category. Song et al. (2020), in the closest attempt, distinguish bodily, verbal, companionship and psychological forms of hidden left-behind among urban children and analyze them with a structural equation model; their dimensions describe how the condition is experienced, not how it could be recorded by a school or a register. What the vocabulary lacks is a referent that an institution can record. Hidden left-behind has functioned as metaphor, policy lament and residual category; it has descriptive dimensions but no identification criteria, no threshold and therefore no count, and a category that cannot be counted and cannot be targeted. Three reasons account for the gap: the term entered circulation through policy commentary rather than through instruments designed

[1]National Bureau of Statistics of China (2025). Survey Report on Rural Migrant Workers 2024. (In Chinese) https://www.stats.gov.cn/zwfwck/sjfb/202504/t20250430_1959523.html

for identification; its referent was defined negatively as the absence of the official criterion rather than positively by a temporal condition; and the family-function literature measured what families do rather than what work prevents them from doing.

This article supplies the missing apparatus. It argues, first, that the spatial definition should be read not as an incomplete measure but as an instrument designed for a regime in which absence and distance coincided; once they separate, it misregisters rather than under-registers. Second, it specifies hidden left-behind childhood through three criteria that a school could already answer. Third, it reformulates the mechanism around temporal fit rather than the quantity of parental time. Fourth, it explains why registration-based systems cannot see the condition, and shows through four policy instruments that the blind spot is a design feature.

The article is conceptual. It reports no primary data and uses only published statistics and public policy documents, so its propositions are offered for testing rather than as findings. Nor does it propose that hidden left-behind children replace the traditional category: the two describe different mechanisms producing a similar functional result, and a child protection system needs both.

2. From Location to Timing

The administrative definition combines parental absence, duration and residential location. The State Council's 2016 opinion defines a left-behind child as a minor under sixteen whose parents have both migrated for work, or of whom one parent has migrated while the other lacks guardianship capacity[2]. Research and statistical practice add two operational conditions to this core, requiring that the absence has lasted six months or more and that the child remains in the registered rural place of origin (Dai et al., 2022; Liu, 2025). Neither condition appears in the official definition, and the gap has been a standing source of dispute over what counts as left-behind (Luo, 2006; Tan, 2011). Sub-types follow the care arrangement: single-parent, two-parent and intergenerational (Huang & Li, 2007). The construction is countable, stable and aligned with a fiscal architecture that allocates services to registered categories. A definition that could not be counted would not have survived; this one could, and did.

Its difficulty is not imprecision. It is that three configurations common in industrializing districts satisfy the spirit of the category while failing its letter. The commuter lives with both parents, who work in the county's industrial park on twelve-hour shifts; no one has migrated, no register applies, and the child is alone at the hours that count. The returner has come home, and the register closes the case, without recording that a job with regular hours in another city has been exchanged for a shift system in the home county. The absent owner buys an apartment near the industrial zone, enrolls the child locally and continues to work elsewhere, so that the family owns local property and is presumed present.

[2]State Council of the People's Republic of China (2016). Opinions on Strengthening the Care and Protection of Rural Left-Behind Children. (In Chinese) https://www.gov.cn/zhengce/content/2016-02/14/content_5041066.htm

Behind these cases lies a single methodological choice. The spatial definition takes the household as its unit and location as its attribute. Industrialisation changes neither; it changes timing. It relocates parental availability within the day without altering where anyone lives. No register records when a parent is awake, so no register can observe the change. This is why the failure should be called systematic rather than incidental: an under-count caused by imperfect enumeration could be corrected by better enumeration, but a mis-registration caused by measuring the wrong attribute cannot, because the instrument is doing what it was designed to do.

The international evidence points the same way. Graham and Jordan (2011), using survey data on 3876 children in four Southeast Asian countries, found no general pattern: the children of migrant fathers fared worse in Indonesia and Thailand but not in the Philippines or Vietnam, and the authors argued for contextualised rather than general claims. Zhang and Wang (2024), using daily diary data, found that teacher support predicted same-day school belonging but that the association weakened as migration lengthened. The operative variable is practical availability, which is precisely what a register does not record.

3. A Functional Definition

A hidden left-behind child is a child under sixteen who has not experienced long-term spatial separation from either parent (that is, whose household is registered or who is enrolled in a school within the county, and no parent has been absent from the household for six consecutive months during the previous year), but whose parents' sustained unavailability produces a stabilised deficit in family educational support. The definition contains three conditions, all of which must hold; the age ceiling follows the 2016 opinion, and raising it to eighteen would not change the argument. Earlier proposals have combined parental absence, duration and care arrangement into a single definitional index (Hao & Cui, 2007); the present account separates duration, availability and educational function so that each can be recorded independently.

The exclusion of one-parent-migrant households is deliberate. Where one parent has been away for six months or more, the household is either already registered as left-behind under the 2016 criteria (if the remaining parent lacks guardianship capacity) or at least flagged by migration-based screens; it is not invisible in the way this category describes. One-parent migration also locates the functional deficit in migration itself rather than in local employment schedules, which is the mechanism this paper addresses.

The first is the absence of long-term spatial separation: the child's household is registered or the child is enrolled in a school within the county, and no parent has been absent for six consecutive months during the previous year. The second is persistent functional absence: a working parent on whom the household's daily care depends works at least sixty hours a week or on rotating shifts, and is routinely unavailable during the child's after-school and pre-sleep windows on at least

four weekdays. The third is a stabilised deficit in educational support: no co-resident adult can provide consistent homework guidance, and the household relies on the child's self-management, on supervision without instruction, or on school provision for at least a year.

The spatial boundary is deliberate. Criterion 1 admits only households in which no parent has been absent for six consecutive months; the absent-owner configuration of Table 1 therefore qualifies as hidden left-behind only where parental absences stay below that threshold—for example where the working parent returns at weekly or fortnightly intervals. Where an absence reaches six consecutive months, the household falls outside the present definition: it is either already captured by the traditional category or, if it is not registered in the county of origin, outside all of the categories considered here.

The third condition does the most work, because it distinguishes functional absence from the ordinary fatigue of working parents. It also marks two boundaries. Against child neglect, this is a structural condition rather than a harm standard: a child can meet all three criteria without being neglected, if a capable grandparent provides consistent care, and can be neglected without meeting any of them. Against the merely busy household, the persistence and caregiver-capacity requirements are constitutive rather than qualifying: a household in which a grandparent can explain a fraction does not meet the third condition, however long the parents work. Without them, the category would include every dual-earner family and would describe nothing.

Table 1. Four configurations of left-behind childhood.

Configuration	Parental location	Temporal availability	Educational function	Visibility to registers
Traditional left-behind	One or both parents working outside the county for six months or more	Absent most of the year	Delegated to relatives	Registered
Semi-left-behind	Parent migrates but returns at short intervals	Intermittent	Partial and unstable	Partly registered
Hidden: local employment	Both parents resident, employed locally	Resident but unavailable after school and before sleep	Supervision without instruction	No category
Hidden: absent owner	Parents work outside the county; child in a local estate	Absent most weeks; no single absence reaches six consecutive months	Supervision without instruction	Outside all jurisdictions

Note. Configurations are defined by the three criteria in Section 3. The fourth row falls within the three criteria only where no parental absence reaches the six-month threshold of Criterion 1. The fourth row is derived rather than observed.

The fourth row is derived rather than observed: it follows from the criteria combined with the structure of Chinese residential governance, and its frequency is an open question. It is included because a typology that omits a logically possible

configuration will mis-specify the mechanism, and because it exposes the weakness in registration that Section 5 develops.

4. Temporal Fit

The intuitive account runs through quantity: long hours reduce time, less time means less interaction, and less interaction weakens educational function. It is attractive because hours are easy to measure, and it is inadequate for three reasons. Presser (2003) showed that non-standard schedules disrupt the temporal coordination of family life independently of total hours: a night-shift parent may be at home as long as a day-shift parent, but is asleep when children return from school. Milkie et al. (2015), using time diaries from a national panel, found that the amount of maternal time was largely unrelated to children's behavioural, emotional and academic outcomes, whereas socioeconomic status was; only engaged time with adolescents predicted less delinquency. And Lareau (2011) showed that the educational value of time depends on the cultural resources a parent can mobilise, so that supervision in a household with limited schooling is not equivalent to guidance in another. Hours are therefore the wrong unit.

Temporal fit is the degree of overlap between the periods in which a parent is available in a usable sense and the periods in which a child requires support. Usable availability has three components, namely at home, awake and not working; need has two, the after-school window in which homework and the day's difficulties are handled, and the pre-sleep window in which reassurance, rule-setting and unhurried conversation occur. The concept has three measurable dimensions: duration, the number of weekday hours of overlap; placement, whether those hours fall in the need windows; and regularity, whether the pattern is stable enough to be relied on. A household can score well on duration and badly on placement, which is exactly what a two-shift regime produces, and which is why a single hours-based indicator cannot capture the phenomenon.

Temporal fit is not quality time. Quality time concerns the content of interaction once it occurs; fit concerns the possibility of its occurring at all. Nor is it a measure of commitment: a parent may be deeply committed and structurally unavailable, which is the situation the concept describes without moralising.

The claim that timing matters more than quantity does not begin here. Research on nonstandard work schedules has shown that evening, night and weekend work is associated with poorer family relationships and children's well-being (Strazdins et al., 2004, 2006), and that parents' evening or night shifts predict children's reading and mathematics trajectories independently of total hours worked (Han & Fox, 2011); longitudinal work on rural Chinese preschool children points the same way, finding that the configuration of parental absence matters as much as its fact (Hu et al., 2020). What this article adds is not the observation that schedules matter but an identification structure built on them: temporal fit, decomposed into duration, placement and regularity, converts the labour-market fact of shift work into an attribute that a school form could record, and it is precisely this attribute

that registration-based systems lack. That earlier literature mostly concerns advanced economies; in the industrialising Chinese county the same mechanism carries an administrative edge, because employment has moved into the county while registration still follows location. The contribution is therefore as much to the problem of legibility as to the study of time.

The mechanism runs through five links (Figure 1). The labour regime determines the temporal distribution of parental availability; the distribution determines fit; poor fit reduces both the duration and the thematic range of interaction, because conversation confined to a narrow evening slot organised around tasks will be about tasks; narrowed interaction, combined with limited caregiver capacity, reduces the educational function to supervision; and the resulting deficit in guidance and emotional support raises the risk of academic, emotional and social difficulty. The model is probabilistic rather than deterministic, since a capable grandparent, a flexible employer or a strong school may interrupt the chain at any link. It locates the causal action upstream, in scheduling, rather than downstream, in parenting practice, which is what makes it policy-relevant: scheduling is a decision firms make and local governments can influence.

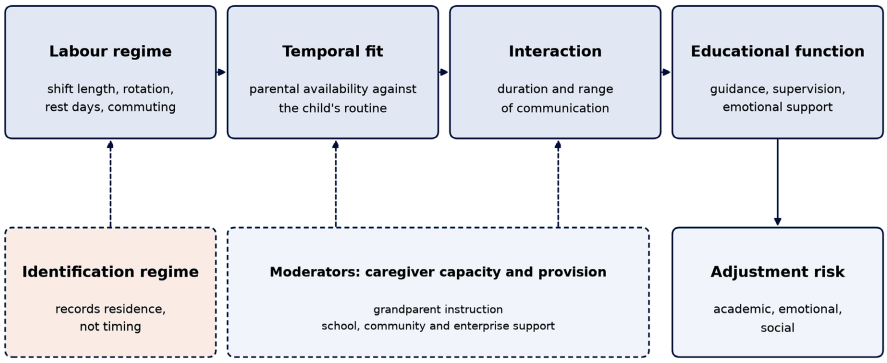


Figure 1. Temporal fit as the mechanism linking local employment to family educational function. Solid arrows denote the mechanism; dashed arrows denote moderating and identifying conditions.

Three propositions follow, each stated so that it could be falsified. Proposition 1: the association between local industrial employment and weakened educational function is mediated by temporal fit more strongly than by total hours worked. Proposition 2: schedule irregularity predicts deficits independently of total hours, and would be refuted if rotating and fixed schedules produced equivalent outcomes at constant hours. Proposition 3: the effect of poor fit is moderated by the instructional capacity of alternative caregivers and by school and community provision, which identifies where intervention can interrupt the chain. A fourth, institutional proposition is stated in Section 5.

5. Why Registers Cannot See the Condition

States see what they record. Scott (1998) called this the problem of legibility: ad-

ministrative systems simplify social reality into a small number of attributes that can be written in a form, and the attributes chosen determine what the state can subsequently perceive. A register that records residence, household composition and parental location will report a commuting household as intact, because on all three attributes it is. The concept of the hidden left-behind child is therefore not merely a new category but a demand for a new attribute, and the attribute it demands is temporal.

A household becomes visible through one of three interfaces. Village registration asks whether members work elsewhere, a question that cannot admit the answer "both parents work locally on rotating shifts". School enrolment records an address, a guardian and a contact number; a local address and a local school read as presence, and the form has no field for the hours at which the guardian is at home and awake. The enterprise payroll records attendance, not household circumstance, and where the employer is in another city it is out of jurisdictional reach. Yet teachers already act on something close to the missing attribute: Kim (2019), drawing on 42 interviews in two rural Chinese schools, found that teachers' accounts of family-school relations turned on the gap between their expectations of parental involvement and what caregivers could actually do, a judgement about practice rather than about administrative category.

The argument is clearest in the instruments themselves. Table 2 sets out four, spanning a decade, and identifies the trigger each uses to bring a child within its scope.

Table 2. Four policy instruments and their inclusion triggers.

Instrument	Trigger for inclusion	Attribute recorded	Cannot see
State Council opinion (2016)	Both parents migrated for work, or one migrated while the other lacks guardianship capacity	Parental location	The commuter; the returner
Family Education Promotion Law (2021)	Guardianship relationship (general duty on all guardians); targeted services keyed to left-behind and disadvantaged categories (Art. 30)	Guardian status	Absence inside an intact household
Teaching consortium work plan (2024)	Registration in a priority category	Registration status	Any child not on a list
Guangdong regulation (2025)	Parent not co-residing with the child (e.g., working away)	Absence from locality	A parent home nightly but unavailable

Note. All four key triggers tie inclusion to an attribute of location rather than an attribute of time. The Family Education Promotion Law's general duties (Arts. 16, 22) apply to every guardian; its targeted service provisions (Art. 30) are keyed to households of left-behind minors and minors in difficult circumstances. The six-month duration used in Section 2's operational conditions is an addition of research and statistical practice; it does not appear in the 2016 opinion itself.

The pattern is consistent. The 2016 opinion defines the population through outmigration. The Family Education Promotion Law of 2021 imposes duties on

guardians but keys enforcement to guardianship status rather than to the time a guardian can devote[3]. The teaching consortium work plan of 2024 designates left-behind children as a priority group, but designates them by registration[4]. The Guangdong regulation of 2025 goes furthest, requiring parents working away from home to contact their children weekly[5]; its trigger, however, remains absence from the locality, so a parent who returns each night is outside it. Each instrument is well designed for the population it targets. Yet the gap they leave must be stated carefully, distinguishing general legal coverage from eligibility for targeted services. The Family Education Promotion Law reaches every household as a matter of law: it imposes its family-education duties on all parents and guardians—Article 16 sets out the content of those duties, and Article 22 requires guardians to arrange children's time for study, rest, recreation and physical exercise—and a guardianship-based duty does not exclude a resident parent. What the instruments fail to do is route a locally resident, employed and enrolled household into targeted service provision. Under the Family Education Promotion Law, for example, Article 30 directs city, county and township governments to build dossiers for households of left-behind minors and minors in difficult circumstances and to provide living assistance, employment support and family-education guidance, and directs education authorities and women's federations to provide targeted family-education services to those households; a locally employed household belongs to neither category, so it is covered by the law's general duties but by none of its targeted services. The 2016 opinion and the teaching consortium plan trigger services only through registration in a left-behind or priority category, and the Guangdong regulation keys its weekly-contact requirement to absence from the locality. A household that is resident, employed, locally enrolled and temporarily unavailable therefore falls outside the scope of targeted services under all four instruments.

This yields the institutional proposition. Proposition 4: identification regimes keyed to residence and migration will undercount affected children as local employment rises, and the undercount will grow with the share of employment that is local rather than out-of-township. It is testable in principle, but not from administrative data alone: administrative records can establish the antecedent—the share of employment that is local—but not the consequent, the number of affected children, precisely because they omit the temporal condition that the three criteria of Section 3 require. A test therefore requires an independent benchmark: a sample survey that implements the three criteria—a shift roster, a weekly availability calendar and a caregiver-capacity item, ideally combined with a time diary—from which the number of children meeting the criteria can be estimated. The under-

[3]Standing Committee of the National People's Congress (2021). Law of the People's Republic of China on the Promotion of Family Education. (In Chinese) http://www.npc.gov.cn/c2/c30834/202110/t20211023_314286.html

[4]Ministry of Education of the People's Republic of China et al. (2024). Work Plan for School-Family-Community Collaborative Education through "Teaching Consortiums". (In Chinese) https://www.gov.cn/lianbo/bumen/202411/content_6984349.htm

[5]Standing Committee of the Guangdong Provincial People's Congress (2025). Regulations of Guangdong Province on the Promotion of Family Education. (In Chinese) http://www.pwccw.gd.gov.cn/dfzc/content/post_1286456.html

count is then defined as the difference between this survey-based estimate and the administrative count, and Proposition 4 predicts that this difference grows as the local share of employment rises.

The fourth row of Table 1 shows the limit case. A household that buys property, enrols the child locally and keeps working elsewhere is, from its own point of view, rational: it secures urban schooling and a local asset. From the administrative point of view, it severs the link with the village, while the estate in which it now lives is governed by a property company rather than a village committee. The household is in the estate but not in the village, employed elsewhere but resident locally. That this configuration is derived rather than observed does not weaken the point: it shows that a household can move from visible to invisible by becoming more, not less, integrated into the local economy. Under Criterion 1, this configuration counts as hidden left-behind only where no absence reaches six consecutive months; where it does, the household falls outside the category.

6. Implications and Conclusion

Three implications follow. The first concerns measurement. The criteria can be operationalised through seven items added to an enrolment form or a household visit record: Item 1 (Criterion 1, exclusion): for each parent or guardian, the longest work-related absence from the household during the previous year, in months (under one; one to five; six or more)—any absence of six consecutive months or more excludes the household. Item 2 (Criterion 2, workload): for each co-resident parent, usual weekly work hours and shift pattern (fixed day; rotating; night)—sixty or more hours a week, or rotating shifts, triggers the criterion. Item 3 (Criterion 2, availability): in a typical school week, on how many weekdays is no co-resident parent at home and awake during the after-school and pre-sleep windows (0 - 5)?—at least four weekdays triggers the criterion. Item 4 (Criterion 3, care arrangement): who usually supervises homework on school nights (parent; grandparent or other relative; sibling; the child alone; school or boarding provision)? Item 5 (Criterion 3, caregiver capacity): can the usual supervising adult explain new material, or only check that it has been completed? Item 6 (Criterion 3, persistence): how long has the current arrangement lasted (under six months; six months to one year; more than one year)?—more than one year triggers the criterion. Item 7 (Criterion 3, deficit form): when homework cannot be completed, does the household rely on supervision without instruction, the child's self-management, or school provision? The design requires no diagnostic instrument, describes the household rather than classifying the child, and yields a graduated profile rather than a binary label.

The second concerns policy. Provision should be uncoupled from registration, because the eight categories that structure school outreach are defined by household and health status, and a child whose parents are resident, employed and secure is unlikely to fall into any of them. Adding a functional criterion would cut across the existing categories without labelling a child. And because the mecha-

nism runs through scheduling, the roster is where it can be interrupted: fixed rather than rotating shifts for parents of school-age children, rest days aligned with the school calendar, or a shorter shift during examinations. Evidence on family support programmes suggests that participation depends on available time, which is precisely the resource shift work removes (Lei & Zhang, 2024).

The third is a caution. A category that allocates support can also stigmatise. The unit of record should be the household rather than the child, since a form recording a parent's shift pattern is a record about an employment contract, while a form recording a child's status follows the child through school. The category should be revisable, because circumstances change when a shift is fixed or a grandparent moves in. And it should never be used as an explanation: describing a child as hidden left-behind explains nothing about the child, only about a household's temporal organisation.

Four limits should be acknowledged. The three criteria are stated as thresholds rather than as estimates, and their calibration is an empirical matter: a sixty-hour week and four weekdays are defensible starting points, not settled ones. The absent-owner configuration is derived rather than observed, and its frequency is unknown. The propositions are untested, and the design that would test them most directly, a time diary combined with a shift roster and repeated after a change of schedule, has not been run. And the argument says nothing about children's own accounts, which the literature has measured almost entirely through adults.

The category of the left-behind child was built for a world in which absence and distance were the same thing. That world is ending: three quarters of rural migrant workers now work within their province and two fifths within their own township. Where local employment removes parents from children's need windows, children live in households that are intact by every administrative measure and depleted by every functional one; whether and how widely this occurs is not yet measured, and the argument of this article is that existing instruments cannot see it. The response should not be to stretch the old category but to specify a new one. Hidden left-behind childhood is defined by three conditions, none of which requires a clinical judgement and all of which a school can record. The mechanism runs through temporal fit rather than the quantity of time, which is why the families affected are often those that have done best out of local industrialisation. And they remain invisible not because the state has failed to look but because its instruments record location, while the condition is about timing.

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Author Contributions

All authors designed the study, developed the conceptual framework, analysed the

policy documents and wrote the manuscript. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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